SCREENING

STATEMENT OF PURPOSE

Student health issues that may be barriers to learning will be identified and addressed by collaboration between the school nurse, the family and the medical home.

AUTHORIZATION - LEGAL REFERENCES

- 16 V.S.A. Chapter 31 § 1422 – Vision and hearing tests
- 16 V.S.A. Chapter 101 § 2942 – Special education definitions
- Vermont School Quality Standards - Section 2120.8.1.3.3
- Vermont Department of Education and Vermont Department of Health Memorandum on Collecting Student Height and Weight Information in School, December 9, 2004

DEFINITION

Screening – The examination of a group of usually asymptomatic individuals to detect those who have a probability of developing a given disease or health problem.

REQUIRED SCHOOL NURSE/ASSOCIATE SCHOOL NURSE ROLES:

1. Obtain knowledge of the requirements and recommendations for scheduled screening exams. **(**See *Required and Recommended Screening Chart*)
2. Decide which screening exams will be done at the specified grade levels – at the least, all health screening exams required by law must be completed each year. Assist in Early Essential Education screening as you are able. All initial screening should be done within the first three months of school. If a student fails the initial exam, a second screening is done with referral to the medical home, if necessary. This should be completed by December 31.
3. Find a screening site fitting the need of the specific screening exams and large enough to provide appropriate space and privacy for the screener and students being screened.
4. Obtain and maintain appropriate screening equipment and calibrate yearly. (See *Resources* - Equipment Calibration)
5. Evaluate the results of the screening exams and send referrals to parents of students failing the screening, recommending further evaluation at the medical home. (See *Sample Protocols and Forms* referral letter)
    a. Include information on the Dr. Dynasaur Program, a space for the health care provider's examination findings and recommendations and instruction to return the form to the school nurse/associate school nurse.
    b. Contact parents if the screening results form is not returned within a month.
    c. Report results of the screening exam to appropriate school personnel with recommendations for accommodations.
    d. Screening results can be sent directly to the medical provider with permission from the parent/guardian.
6. Notify in writing parents/guardians of a student who is unable to perform the screening exams and include a recommendation for a professional examination.

7. Record all screening results in the student's permanent health record including notations of referral, referral results and/or follow-up.
8. Report all screening statistics to administration and results of vision and hearing screening to the Department of Education in Annual Health Services Screening Report.

SUGGESTED SCHOOL NURSE/ASSOCIATE SCHOOL NURSE ROLES

VISION

1. Carry out vision and hearing exams on students who:
   - repeated a grade
   - receive special education
   - have any chronic medical condition conducive to vision and hearing difficulties
   - have signs and/or symptoms of vision or hearing difficulties
   - wears corrective lens(es)/hearing aids or use hearing amplification equipment
   - were referred to the educational support team
   - failed the screening exam last year
   - were referred by staff or parents
   - are new to the school and not screened in the last six months
   - are entering the Early Essential Education Program

2. Consider screening students who report or are observed with:
   - strabismus
   - inflamed, edematous and/or encrusted eyelid(s)
   - inflamed and/or tearing eye(s)
   - recurring styes
   - complaints of double or blurred vision
   - complaints of dizziness, headaches, or nausea, following close work
   - inability to see well at near or far distance
   - holding book too close
   - squinting, frowning, blinking or rubbing eyes excessively
   - straining to see (shutting one eye, tilting head, thrusting head forward)
   - drooping eyelid(s)
   - stumbling over small objects

3. Carry out a comprehensive vision screening program that screens for:
   - distance visual acuity
   - near visual acuity starting in second grade
   - ocular alignment (muscle balance/phoria)
   - color discrimination in K or 1st grade in males only

4. Train students unfamiliar with the vision screening process and equipment. The Snellen Letter Chart is the preferred screening tool for visual acuity. Testing distance of ten feet is recommended for distance acuity charts that are designed for ten feet. If the child cannot perform this test, the following tests are available for use:
   - Allen Picture Card test
   - HOTV set for lighted Insta-Line Vision Tester
   - Faye Symbol Chart
   - Michigan Preschool slides for Titmus
   - Blackbird Vision Screening System
   - Lea Symbols

   You can purchase these testing materials from most school nursing catalogs.

5. Evaluate the vision screening results and refer to medical home as appropriate.

HEARING

1. If possible, receive training for hearing screening by an audiologist.
2. Use a quiet screening room free of distractions and noises.
3. Use equipment acceptable for comprehensive hearing exam such as a pure tone audiometer. Audiometers need calibration evaluations at least yearly or semiannually if greater than five years old or subject to rough handling. Appropriate handling and care of audiometric equipment is essential:
   - avoid extreme temperature
   - in transporting, place flat on the seat of automobile
   - avoid rough handling
4. When possible use pure tone screening as the preferred method for screening hearing. It includes:
   - hand raising or pressing button response to hearing the various tones generated by the audiometer (more valid with older students)
   - play audiometry response technique. A young child can be taught to respond to pure tone sounds but consistency in the teaching method is essential. (See Procedure for Pre-school Puretone Screening and Play Conditioned Audiometry)
5. Train students unfamiliar with the screening process and equipment.
6. Carry out a comprehensive hearing screening program that screens for hearing levels at frequencies of 500, 1000, 2000, and 4000 Hz using 20db if a sound proof room is available or 25db if a sound proof room is not available.
7. Evaluate the hearing exam results and refer to medical home as appropriate.

HEIGHT AND WEIGHT (OPTIONAL SCREENING)

1. Obtain the necessary calibrated equipment for a comprehensive heights and weights measuring program such as:
   - scale(s)
   - height measuring device
   - height and weight charts for boys and girls.
2. Assure privacy and accurate height and weight measurements of the student by having the student remove heavy clothing and shoes.
3. Evaluate height and weight data obtained using growth charts to plot Body Mass Index (BMI) for age and refer as appropriate to medical home.
4. Aggregate height and weight data using the format provided by the Department of Education on an annual basis.

BLOOD PRESSURE (OPTIONAL SCREENING)

1. Consider screening students in the recommended grades and who report or are observed with:
   - known normally elevated or high blood pressure
   - headaches or dizziness
   - fatigue
   - shortness of breath
   - edema
   - obesity
   - visual disturbances
   - chest pain.

2. Evaluate blood pressure readings utilizing the VDH Health Screening for Children & Adolescents Provider's Toolkit.
3. Re-screen when systolic pressure, diastolic pressure or both are at the 90th percentile or above for the student's age and gender. Obtain three readings at least one day apart but not more than one week apart.
4. Refer to medical home as appropriate.

RESOURCES

- American Academy of Ophthalmology - www.aao.org
- *Blood Pressure Levels for the 90th and 95th Percentiles for Boys and Girls Ages 1-17 years by Percentiles of Height*
- National Association of School Nurses – www.nasn.org - Pamphlets can be purchased at a low cost on the various screening exams.
- Required and Recommended Screenings
- Screening Program Flow Chart
- State of Vermont Division for the Blind and Visually Impaired http://www.dad.state.vt.us/dbv
- Vermont Association for the Blind and Visually Impaired - http://www.vabvi.org
- Vermont Department of Health - Division of Health Improvement: Children with Special Health Needs – Hearing Health and Communications Program
- Equipment Calibration:

  Antec Calibration - Toni Summers
  P.O. Box 8264
  Brattleboro, VT 05304
  (603) 256-6677 (Fax 256-6180)

  Technical Services Program - Tim Agan
  University of Vermont
  (802) 656-3255 Ext. 0078
  Timothy.Agan@uvm.edu
- Center for Disease Control and Prevention – www.cdc.gov – for growth charts – www.cdc.gov/growth charts
- Commissioner's Letter on collecting Body Mass Index (2004)
- National Association of School Nurses – www.nasn.org - Pamphlets can be purchased at a low cost on the various screening exams.
- Tools for Calculating Body Mass Index (BMI) - http://www.cdc.gov/nccdphp/dnpa/growthcharts/bmi_tools.htm
- Vermont Department of Health – Health Screening for Children and Adolescents:
- Provider Tool Kit Burlington, VT.

SAMPLE POLICIES, PROCEDURES AND FORMS

- Screening Program Flow Chart
- Required and Optional Screenings
- Screening Forms
  a. Mass screening – Hearing
  b. Mass screening – Vision
- Vision Referral Letters
- Glossary of terms from NASN's booklet, *Vision Screening Guidelines for School Nurses*
- Hearing Information
  a. Audiogram of Familiar Sounds from the Luce Center
  b. Procedure of Pre-school Puretone Screening and Play Conditioned Audiometry

c. Relationship of Degree of Long-term Hearing Loss to Psychosocial Impact
d. Helping the Hard of Hearing (Students with Special Needs)

- Hearing and Vision Screening of Students with Disabilities, Vermont Department of Education Memorandum, January 22, 2003

VISION CRITERIA FOR REFERRAL

1. Pre K - 12 distant and near visual acuity:
   a. Passing results are seeing at least 20/30 in both eyes.
   b. Failing results are seeing at 20/40 level or above in either eye.

2. A two-line difference in visual acuity between the right and left eyes.

3. Failure of ocular balance (muscle balance) at **both** near **and** far, - if this problem has not been identified and referred before.

4. An obvious mal-alignment or wandering eye.

5. If a student has had follow-up for vision loss, but more than three months have elapsed with the loss still apparent, it is recommended by the American Academy of Pediatrics that a student be re-evaluated.

6. If a student is unable to be screened.

7. Referrals can also be made for observations such as:
   - Injected conjunctiva with abundant purulent drainage
   - Inflamed, edematous, and/or encrusted eyelid(s)
   - Reaction to screening i.e., squinting, frowning, scowling, puckering of face, or refusal to have one eye covered
   - Watering, itching, pain, blurring or double vision
   - Thrusting head forward or tilting head
   - Closing one or both eyes during test
   - Deviation of eyes
   - Photophobia
   - Poorly fitting or scratched corrective lens(es)

HEARING CRITERIA FOR REFERRAL

1. Passing results are:
   - hearing at 20 dB in sound proof room; or
   - hearing at 25 dB in a non-sound proof room.

2. Failing results are: initial and rescreening at 30 dB or greater for one frequency in either ear.

3. If a student is unable to be screened.

CRITERIA FOR REFERRAL - HEIGHT AND WEIGHT

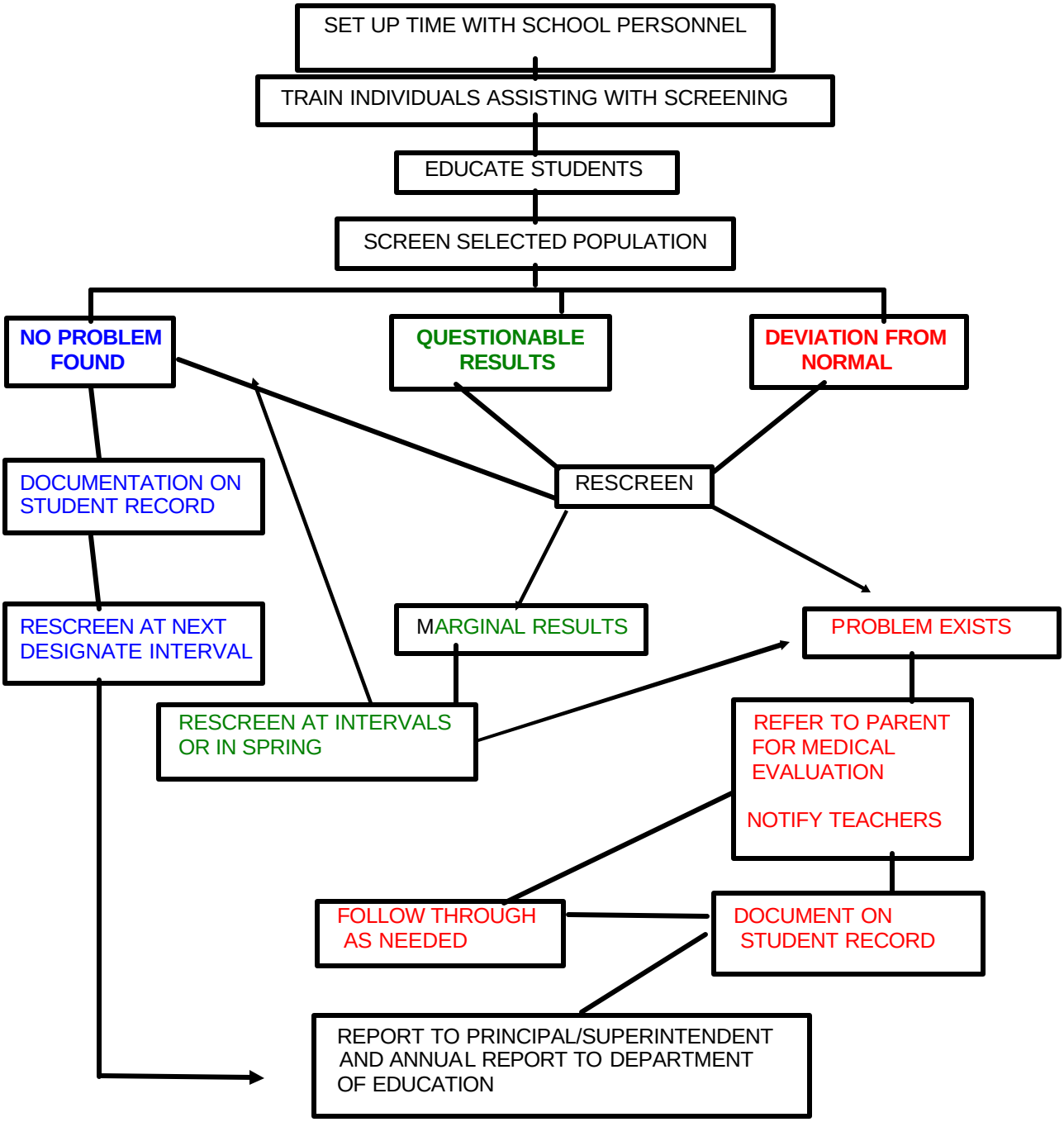
1. Changes in growth pattern of two percentile levels or more based on the chronological age of the student.
2. A differential of two percentile levels between height and weight.
3. CDC Body Mass Index (BMI) for Age and Gender Growth Charts indicating that the student is at risk for being overweight or being underweight.
4. If a student is unable to be screened.

CRITERIA FOR REFERRAL – BLOOD PRESSURES

1. If after three blood pressure readings, two out of the three readings are at the 90th percentile or above for the student's age.
2. Immediate referral is indicated if the systolic pressure is above 150 or the diastolic pressure is above l00.
   If a student is unable to be screened.

SCREENING PROGRAM FLOW CHART

Administering a Health Screening Program in the School Setting Can Include the Steps Depicted Below:



REQUIRED AND OPTIONAL SCREENING

RQ Screening exams required by Vermont Law

OP Optional screening exams

SCREENING		GRADE												
		PK	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
HEARING			OP	RQ	RQ	RQ		RQ		RQ		RQ			
VISION	**Phoria**		OP	OP	OP	OP	OP								
	Visual Acuity		OP	RQ	OP	RQ		RQ		RQ		RQ *	RQ *		
	Color Vision		OP	OP											

* Screening is required in one of the two grades

Mass screening – Hearing

HEARING SCREENING

NAMES	RIGHT				LEFT				COMMENTS
Class -	500	1000	2000	4000	500	1000	2000	4000	
1									
2									
3									
4									
5									
6									
7									
8									
9									
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11									
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14									
15									
16									
17									
18									
19									
20									

Mass screening – Vision

SCREENING VISION

NAMES	G	FAR VISION		PHORIA		NEAR VISION		COMMENTS
Class -		RIGHT	LEFT	FAR	NEAR	RIGHT	LEFT	
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School Health Services - Health Screening Sample Referral Letter

Date:

Student Name:

Dear Parent/Guardian,

AS part of the health services program at _____ Elementary, health screening exams are done to detect problems that might interfere with your child's school performance or general health. The screening exams include: vision, hearing, height, weight, and blood pressure. These exams should not be a substitute for a regular physical exam by your doctor, which should be done at least every two years for children of school age. However, these exams do serve to identify problems that might come up between physicals.

The recent health screening on your child indicates that a possible vision problem exists. Further evaluation should be done by your doctor to determine if there is a problem that needs treatment. Test results are given below for you to share with the doctor.

20/20 is normal vision.

Vision Exam	**EYE**	**Far Vision**	**Near Vision**	**Phoria**
1st Exam	Right			
	Left			
2nd Exam	Right			
	Left			

Please make an appointment with your doctor to have this checked. When your child is seen by the doctor, please have the attached form filled out. Then return the form to the school, so we may know the findings and recommendations. If finances are a problem, the State sponsors the Doctor Dynasaur Program (1-800-244-2035 see enclosed brochure) to assist financially in providing health care for children up to 18 years old. Thank you for your attention to this matter. Please feel free to call me at school on Thursdays (phone number) if you have any questions.

Sincerely,

School Nurse

VISION GLOSSARY

Accommodation – The adjustment of the eye for seeing at different distances, accomplished by changing the shape of the crystalline lens through action of the ciliary muscle, thus focusing a clear image on the retina.

Albinism - Lack of pigment in the iris, skin, and hair; usually associated with lowered visual acuity, nystagmus, and photophobia, and often accompanied by refractive errors.

Amblyopia - Dimness of vision. Amblyopia ex-anopsia is amblyopia due to disuse of the eye.

Ametropia - Imperfection in the refractive powers of the eye so that images are not brought to a proper focus on the retina; includes hyperopia, myopia, and astigmatism.

Astigmatism - A defect of curvature of the cornea of the eye as a result of which a ray of light is not sharply focused on the retina but is spread over a more or less diffused area. This results in the formation of a distorted image.

Binocular Vision - The ability to use the two eyes simultaneously to focus on the same object and to fuse the two images into a single image which gives a correct interpretation of its solidity and its position in space.

Blepharitis - Inflammation of the margin of the eyelids.

Blindness - In the United States, the legal definition of blindness is: Central visual acuity of 20/200 or less in the better eye after correction; or visual acuity of more than 20/200 if there is a field defect in which the wide diameter of the visual field subtends an angle distance no greater than 20°. Some states include up to 30°.

Blind Spot - An area which has no nerve receptors, located at the back of the eye where the optic nerve enters the eye to supply nerve fibers and blood vessels to the retina. The blind spot in one eye does not "correspond" to the other so that the vision of one eye "fills in" the blind spot of the other, and vice versa.

Cataract - A condition in which the crystalline lens of the eye, or its capsule, or both, become opaque, with consequent loss of visual acuity.

Chalazion - Inflammatory enlargement of a meibomian gland in the eyelid.

Color Deficiency - Inability to perceive differences in color, usually for red or green, rarely for blue or yellow. Condition exists in varying degrees from minor loss to complete color blindness.

Concave Lens - Lens having the power to diverge parallel rays of light; also known as diverging, reducing, negative, myopic, or minus lens, denoted by the sign - .

Cones - One of the two types of light-sensitive nerve endings scattered over the surface of the retina making it possible to transmit visual impulses to the brain. Cones perceive fine detail and color and are more numerous at the back of the eye.

Conjunctiva - Mucous membrane that lines the eyelids and covers the front part of the eyeball.

Conjunctivitis - Inflammation of the conjunctiva.

Contact of Corneal Lenses - A thin curved shell of glass or plastic applied directly on the eyeball to correct refractive errors.

Convergence - The process of directing the visual axes of the two eyes to a near point, with the result that the pupils of the two eyes are closer together. The eyes are turned inward.

Convex Lens - Lens having power to converge parallel rays of light and to bring them to a focus; also known as converging, magnifying, hyperopic, or plus lens, denoted by the sign + .

Cornea - The anterior transparent portion of the outer coat of the eye through which light enters.

Dark Adaptation - The ability of the eye to adjust itself to dim lights.

Depth Perception - The ability to perceive the solidity of objects and their relative position in space Synonym - stereoscopic vision.

Diopter - A unit of measurement denoting the amount a lens can bend a light ray in a distance of one meter. A term used to describe the strength of a lens or the deviation of an eye in or out.

Diplopia - Double vision.

Divergence - The ability to relax convergence, or the ability to turn the eyes out.

Emmetropia - The refractive condition of the normal eye.

Enucleation - Complete surgical removal of the eyeball.

Esophoria - A tendency of the eye to turn inward.

Estropia - A manifest or observable turning inward of the eye (convergent strabismus or crossed eye).

Exophoria - A tendency of the eye to turn outward.

Exophthalmos - A condition in which the eyeballs protrude or bulge abnormally from their sockets.

Exotropia - A manifest or observable turning outward of the eye (divergent strabismus or wall eye).

Eye Dominance - Tendency of one eye to assume the major function of seeing, being assisted by the less dominant eye.

Field of Vision - The entire area that can be seen at one time without shifting the head or eyes.

Floaters - Small particles which float in the vitreous and may be seen by the individual.

Focus Point - at which rays are converged after passing through a refractive substance. Focal distance is the distance rays travel after refraction before focus is reached.

Foot-Candle - Unit of measurement of light intensity; the amount of light shed by a standard candle at a distance of one foot.

Fusion - Coordination of the images seen by each eye individually into one picture.

Glaucoma - Disease of the eye marked by increased intraocular pressure resulting in hardness of the eyeball; can cause blindness.

Hordeolum - see Stye.

Hyperopia - A refractive error in which the eyeball is too short from front to back or the refractive power of the eye too weak, so that parallel rays of light are brought to a focus behind the retina. Farsightedness, a condition requiring a convex (plus) lens to correct.

Hyperphoria - A tendency of one eye to deviate upward.

Hypertropia - A manifest or observable deviation upward of one of the eyes.

Ishihara Color Plates - A test for color vision made by the use of a series of plates composed of round dots of various sizes and colors.

Light Adaptation - A test for color vision made by the use of a series of plates composed of round dots of various sizes and colors.

Monocular - Pertaining to or having one eye.

Myopia - A refractive error in which the eyeball is too long or the refractive power too strong, so that parallel rays of light are focused in front of the retina. Near-sightedness - a condition requiring a concave (minus) lens to correct.

Near Vision - The ability to perceive distinctly objects at normal reading distances, or about fourteen inches from the eyes.

Night Blindness - A condition in which the sight is good by day but deficient at night and in any faint light.

Nystagmus - An involuntary, rapid movement of the eyeball; may be lateral, vertical, rotary or mixed.

Occlusion - The method of obscuring the vision of one eye, so as to force the use of the other eye.

Oculus Dexter - (O.D.) Right eye.

Oculus Sinister - (O.S.) Left eye.

Oculus Uterque - (O.U.) Both eyes.

Ophthalmologist - A physician who specializes in the branch of medical science dealing with the structure, functions, and diseases of the eye.

Optometrist - A specialist in the art or profession of examining the eye for defects and faults of refraction and prescribing correctional lenses or exercises, but not drugs or surgery.

Partially Seeing Child - For educational purposes, a partially seeing child is one who has a visual acuity of 20/70 or less in the better eye after the best possible correction, and who can use vision as his chief channel of learning.

Peripheral Vision - Ability to perceive presence, motion, or color of objects outside of the direct line of vision.

phoria - A suffix root denoting a latent deviation in which the eyes have a constant tendency to turn from the normal position, used with a prefix to indicate the direction of such deviation (hyperphoria, up; esophoria, in; exophoria, out).

Photophobia - Abnormal sensitivity to and discomfort from light.

Plus Sphere Lens - Lens made by using prisms to converge light rays so that they come to a focus nearer the front of the eye, thus allowing a shorter eyeball to see an image more clearly; often written: sphere.

Ptosis - The permanent drooping of the upper eyelid.

Refraction -

a. Deviation in the course of rays of light in passing from one transparent medium into

another of different density.

b. Determination of refractive errors of the eye and correction by glasses.

Refractive Error - A defect in the eye that prevents light rays from being brought to a single focus exactly on the retina.

Retinitis - Inflammation of the retina.

Retinitis Pigmentosa - A chronic, progressive degeneration (usually hereditary) consisting of atrophy of the retina with characteristic deposits of pigment.

Retinoblastoma - The most common malignant intraocular tumor of childhood which occurs usually under age 5, is probably always congenital, and may require removal of the eye.

Retrolental Fibroplasia - A condition in which there is a pathological dilation of the retinal vessels, retinal exudation, detachment, and the formation of a retrolental membrane. This usually occurs in premature infants, particularly those who received supplemental oxygen.

Rods - One of the two types of light-sensitive nerve endings that are scattered over the surface of the retina making it possible to transmit visual impulses to the brain. Rods perceive light and motion.

Safety Glasses - Impact-resistant lenses available with or without visual correction for workshop or street wear protection, for both adults and children.

Scotoma - A blind or partially blind area in the visual field other than the true blind spot. There may be more than one present, and then they are called scotomata.

Stereopsis - Fine depth perceptions, arising from binocular vision.

Strabismus Tropia or squint; failure of the two eyes to simultaneously direct their gaze at the same object because of muscle imbalance; a misalignment of the eyes.

Stye - Acute inflammation of a sebaceous gland in the margin of the eyelid, due to infection and usually resulting in the formation of pus.

Suppression - The voluntary or involuntary non-use of vision, usually by one eye, when both eyes are open but not occluded.

Suppressing - The act of accepting the image seen with one eye and ignoring that seen with the other eye.

tropia - A root word denoting a manifest or observable deviation from normal of the axis of the eye (strabismus), used with a prefix to denote the type of strabismus, as

heterotropia, esotropia, exotropia.

Tunnel Vision (Gun-Barrel, Tubular) - Narrowing of the visual field to such an extent that only a small area of central visual activity remains, thus giving the affected individual the impression of looking through a tunnel.

Uveitis - Inflammation of the uveal tract.

Visual Acuity - Sharpness of vision in respect to ability of the eye to distinguish detail as an object is placed further away or as it becomes small in size.

DEFINITIONS OF VISUALLY HANDICAPPED CONDITIONS

A visually handicapped child is any child who needs special intervention or materials in the classroom because of a visual difficulty. The following are specific terms which describe visually handicapping conditions:

Totally Blind – An extremely small percentage of visually handicapped individuals are actually totally blind. Many have some sort of light, form or movement perception. However, many children who are Braille readers are often referred to as “totally blind,” since they cannot use large-print materials.

Legally Blind - "Legally Blind" is a legal term which describes a person as blind if he/she has a central visual acuity of 20/200 or less in the better eye, after correction; or central visual acuity of more than 20/200 if there is a field defect in which the peripheral field has contracted to such an extent that the widest diameter of visual field subtends an angular distance no greater than 20 degrees.

Low Vision - Children having a visual acuity of 20/70 or less in the better eye after all necessary medical or surgical treatment has been given and compensating lenses provided when the need for them is indicated. Such children are often referred to as "partially sighted" and must have a residue of sight that makes it possible to use sight as the chief avenue of approach into the brain.

These children with a visual deviation from the normal can benefit from the special educational facilities provided for those with low vision.*

* Please note that there are children who may have a visual acuity indicating high visual functioning, but when using their vision in the educational setting have a substantial problem with visual functioning. Assistance of the eye specialist and a vision specialist certified in the Education of the Visually Handicapped should be sought to evaluate visual functioning.

These definitions of blindness are from: Training for School Vision Screening: Regional Approach Model. Region XV Education Service Center, developed under the auspices of the Governors Coordinating Office for the Visually Handicapped and the Department of Special Education at the University of Texas in Austin, 1978.

Screening Forms - Mass screening – Height, Weight and Blood Pressure

BLOODPRESSURE SCREENING

NAMES	BP	AGE	RESCREENING
Kindergarten - PM			

School Health Services - Health Screening Referral for Blood Pressure

Date:

Student Name:

Dear Parent/Guardian,

As part of the health services program at _____ Elementary, health screening exams are done to detect problems that might interfere with your child's school performance or general health. The screening exams include: vision, hearing, height, weight, and blood pressure. These exams should not be a substitute for a regular physical exam by your doctor, which should be done at least every two years for children of school age. However, these exams do serve to identify problems that might come up between physicals.

The recent health screening on your child indicates that a possible blood pressure problem exists. Out of the four blood pressures taken, your child's blood pressure was elevated (according to the guidelines provided for school health services by the State) on three separate occasions. Further evaluation should be done by your doctor to determine if there is a problem that needs treatment. Test results are given below for you to share with the doctor.

Initial Blood Pressure _____Date_____

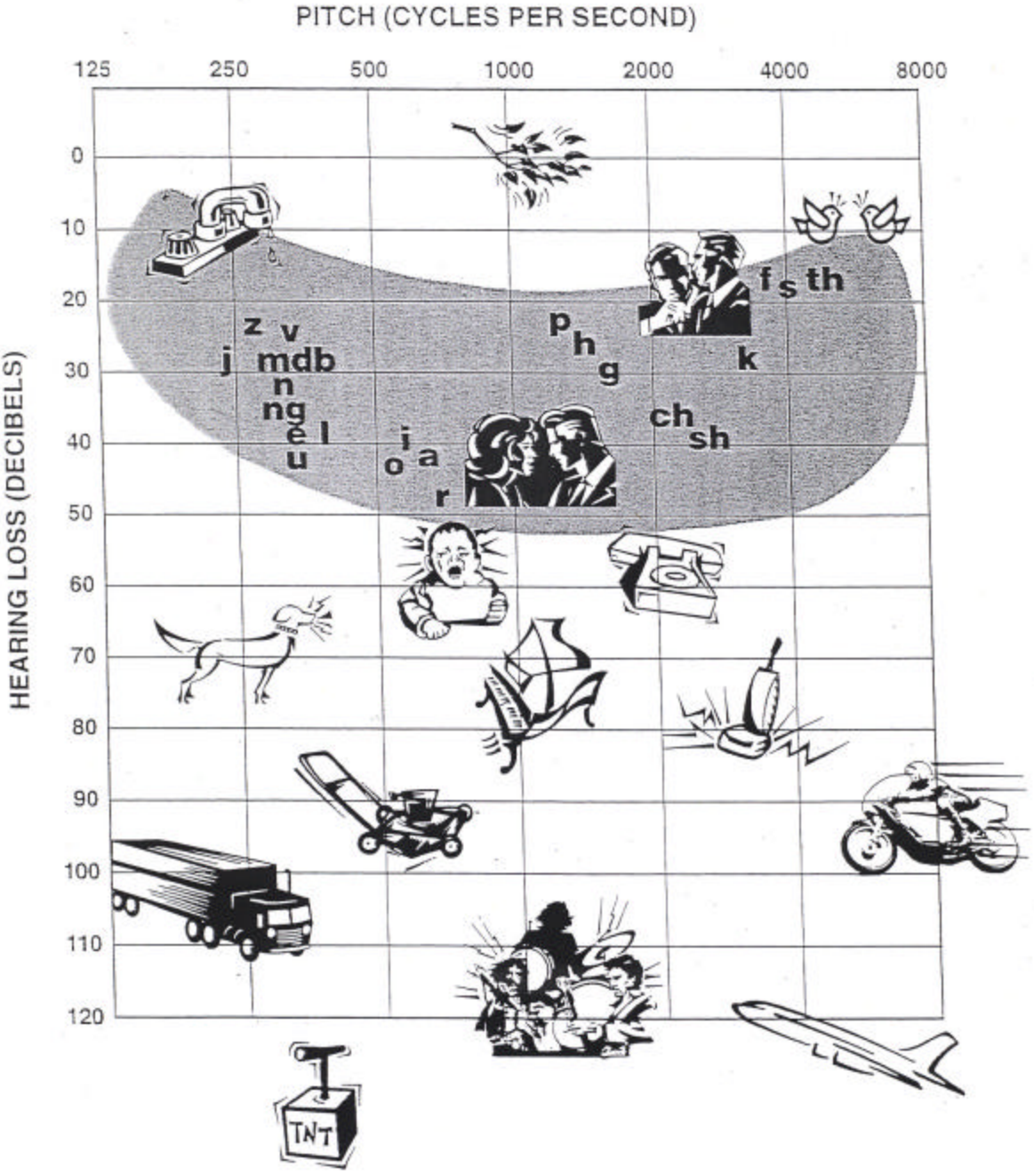
Follow-up Screening	1st	2nd	3rd
Right arm			
Left arm			

Please make an appointment with your doctor to have this checked. When your child is seen by the doctor, please have the attached form filled out. Then return the form to the school, so we may know the findings and recommendations. If finances are a problem, the State sponsors the Doctor Dynasaur Program (1-800-244-2035 see enclosed brochure) to assist financially in providing health care for children up to 18 years old. Thank you for your attention to this matter. Please feel free to call me at school on Thursdays if you have any questions.

Sincerely,

School Nurse

AUDIOGRAM OF FAMILIAR SOUNDS



STATE OF VERMONT
DEPARTMENT OF EDUCATION
120 State Street
Montpelier, VT 05620-2501

To: **School Nurses**

From: **Shevonne Travers, Coordinator, Coordinated School Health Programs and Nancy Wible, Consultant School Health Services**

Date: **January 22, 2003**

Subject: **Hearing and Vision Screening of Students with Disabilities**

Recently a student with disabilities was not provided vision and hearing screening because the school health professional could not provide appropriate accommodations to properly screen the student. There may be some circumstances that prevent proper screening. The issue in this situation was that the parents of the student were not informed the student had not been screened.

Schools are required by law (16 V.S.A. §1422) to provide hearing and vision screening to ***all*** students in grades 1, 2, 3, 5, 7 and 9 and to "any student who appears to have defective vision or hearing, at any time there appears to be a need for such a test." The Department strongly recommends that students on 504 Plans or IEP's, whose disability may have an effect on vision or hearing, be screened more frequently (i.e. annually) than the law requires and that educational support teams, 504 teams and IEP teams be informed of the results of screening.

In an effort to ensure that students' vision and hearing problems do not go uncorrected, it is further recommended that, subsequent to the vision or hearing screenings, all parent(s) be notified of the screening results in writing. Parents should be informed if the student needs further assessment by a hearing or vision specialist. In cases like the one above, they should also be informed that the student was unable to be screened because of a physical impairment, behavioral issue or because he/she was absent.

Thank you for your attention to this matter. Questions or clarifications regarding this issue should be addressed to Nancy Wible, School Health Services Consultant. She can be reached at nwible@doe.state.vt.us or by calling 828-5180.

cc: J. Douglas Dows, Director, Safe and Healthy Schools Team
Dennis Kane, Director, Student Support Team
Special Education Administrators
Superintendents

RELATIONSHIP OF DEGREE OF LONGTERM HEARING LOSS TO PSYCHOSOCIAL IMPACT AND EDUCATIONAL NEEDS

Degree of Hearing Loss Based on modified pure tone average (500-4000 HZ)	Possible Effect of Hearing Loss on the Understanding of Language & Speech	Possible Psychosocial Impact of Hearing Loss	Potential Educational Needs and Programs
NORMAL HEARING -10 - +15 dB HL	Children have better hearing sensitivity than the accepted normal range for adults. A child with hearing sensitivity in the -10 to +15 dB range will detect the complete speech signal even at soft conversation levels. However, good hearing does not guarantee good ability to discriminate speech in the presence of background noise.		
MINIMAL (BORDERLINE) 16-25 dB HL	May have difficulty hearing faint or distant speech. At 15 dB student can miss up to 10% of speech signal when teacher is at a distance greater than 3 feet and when the classroom is noisy, especially in the elementary grades when verbal instruction predominates.	May be unaware of subtle conversational cues which could cause child to be viewed as inappropriate or awkward. May miss portions of fast-paced peer interactions which could begin to have an impact on socialization and self concept. May have immature behavior. Child may be more fatigued than classmates due to listening effort needed.	May benefit from mild gain/low MPO hearing aid or personal FM system dependent on loss configuration. Would benefit from soundfield amplification if classroom is noisy and/or reverberant. Favorable seating. May need attention to vocabulary or speech, especially with recurrent otitis media history. Appropriate medical management necessary for conductive losses. Teacher requires inservice on impact of hearing loss on language development and learning.
MILD 26-40 dB HL	At 30 dB can miss 25-40% of speech signal. The degree of difficulty experienced in school will depend upon the noise level in classroom, distance from teacher and the configuration of the hearing loss. Without amplification the child with 35-40 dB loss may miss at least 50% of class discussions, especially when voices are faint or speaker is not in line of vision. Will miss consonants, especially when a high frequency hearing loss is present.	Barriers beginning to build with negative impact on self esteem as child is accused of "hearing when he or she wants to," "daydreaming," or "not paying attention." Child begins to lose ability for selective hearing, and has increasing difficulty suppressing background noise which makes the learning environment stressful. Child is more fatigued than classmates due to listening effort needed.	Will benefit from a hearing aid and use of a personal FM or soundfield FM system in the classroom. Needs favorable seating and lighting. Refer to special education for language evaluation and educational follow-up. Needs auditory skill building. May need attention to vocabulary and language development, articulation or speechreading and/or special support in reading. May need help with self esteem. Teacher inservice required.
MODERATE 41-55 dB HL	Understands conversational speech at a distance of 3-5 feet (face-to-face) only if structure and vocabulary controlled. Without amplification the amount of speech signal missed can be 50% to 75% with 40 dB loss and 80% to 100% with 50 dB loss. Is likely to have delayed or defective syntax, limited vocabulary, imperfect speech production and an atonal voice quality.	Often with this degree of hearing loss, communication is significantly affected, and socialization with peers with normal hearing becomes increasingly difficult. With full time use of hearing aids/FM systems child may be judged as a less competent learner. There is an increasing impact on self-esteem.	Refer to special education for language evaluation and for educational follow-up. Amplification is essential (hearing aids and FM system). Special education support may be needed, especially for primary children. Attention to oral language development, reading and written language. Auditory skill development and speech therapy usually needed. Teacher inservice required.

Degree of Hearing Loss	Possible Effect of Hearing Loss on the Understanding of Language and Speech	Possible Psychosocial Impact of Hearing Loss	Potential Educational Needs and Programs
MODERATE TO SEVERE 56-70 dB HL	Without amplification, conversation must be very loud to be understood. A 55 dB loss can cause child to miss up to 100% of speech information. Will have marked difficulty in school situations requiring verbal communication in both one-to-one and group situations. Delayed language, syntax, reduced speech intelligibility and atonal voice quality likely.	Full time use of hearing aids/FM systems may result in child being judged by both peers and adults as a less competent learner, resulting in poorer self concept, social maturity and contributing to a sense of rejection. Inservice to address these attitudes may be helpful.	Full time use of amplification is essential. Will need resource teacher or special class depending on magnitude of language delay. May require special help in all language skills, language based academic subjects, vocabulary, grammar, pragmatics as well as reading and writing. Probably needs assistance to expand experiential language base. Inservice of mainstream teachers required.
SEVERE 71-90 dB HL	Without amplification may hear loud voices about one foot from ear. When amplified optimally, children with hearing ability of 90 dB or better should be able to identify environmental sounds and detect all the sounds of speech. If loss is of prelingual onset, oral language and speech may not develop spontaneously or will be severely delayed. If hearing loss is of recent onset speech is likely to deteriorate with quality becoming atonal.	Child may prefer other children with hearing impairments as friends and playmates. This may further isolate the child from the mainstream, however, these peer relationships may foster improved self concept and a sense of cultural identity.	May need full-time special aural/oral program for with emphasis on all auditory language skills, speechreading, concept development and speech. As loss approaches 80-90dB, may benefit from a Total Communication approach, especially in the early language learning years. Individual hearing aid/personal FM system essential. Need to monitor effectiveness of communication modality. Participation in regular classes as much as beneficial to student. Inservice of mainstream teachers essential.
PROFOUND 91 dB HL or more	Aware of vibrations more than tonal pattern. Many rely on vision rather than hearing as primary avenue for communication and learning. Detection of speech sounds dependent upon loss configuation and use of amplification. Speech and language will not develop spontaneously and is likely to deteriorate rapidly if hearing loss is of recent onset.	Depending on auditory/oral competence, peer use of sign language, parental attitude, etc., child may or may not increasingly prefer association with the deaf culture.	May need special program for deaf children with emphasis on all language skills and academic areas. Program needs specialized supervision and comprehensive support services. Early use of amplification likely to help if part of an intensive training program. May be cochlear implant or vibrotactile aid candidate. Requires continual appraisal of needs in regard to communication and learning mode. Part-time in regular classes as much as beneficial to student.
UNILATERAL One normal hearing ear and one ear with at least a permanent mild hearing loss	May have difficulty hearing faint or distant speech. Usually has difficulty localizing sounds and voices. Unilateral listener will have greater difficulty understanding speech when environment is noisy and/or reverberant. Difficulty detecting or understanding soft speech from side of bad ear, especially in a group discussion.	Child may be accused of selective hearing due to discrepancies in speech understanding in quiet versus noise. Child will be more fatigued in classroom setting due to greater effort needed to listen. May appear inattentive or frustrated. Behavior problems sometimes evident.	May benefit from personal FM or soundfield FM system in classroom. CROS hearing aid may be of benefit in quiet settings. Needs favorable seating and lighting. Student is at risk for educational difficulties. Educational monitoring warranted with support services provided as soon as difficulties appear. Teacher inservice is beneficial.

NOTE: All children with hearing loss require periodic audiologic evaluation, rigorous monitoring of amplification and regular monitoring of communication skills. All children with hearing loss (especially conductive) need appropriate medical attention in conjuction with educational programming.

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Developed by
Karen L. Ar on, Ed.S & Noel D. Matkin, Ph.D (1991)

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